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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,810	11/26/2003	Steven R. Latham	560043620644	8119

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EXAMINER

PHAM, MINH CHAU THI

ART UNIT PAPER NUMBER

1724

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/722,810

Applicant(s)

LATHAM ET AL.

Examiner

Minh-Chau T. Pham

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,4,5,10,18-23 and 25-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,5,10,18-23 and 25-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/17/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Claim Objections***

Claims 25 and 26 are objected to because of the following informalities: Claims 26 and 26 depend on canceled claim 24. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 5, 10, 27-36, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al (2004/0187451 A1), in view of Tanaka et al (2004/0168417).

Suzuki et al disclose a filtration system comprising an enclosure with an air flow path formed through the enclosure, a first HEPA filter (5 in Fig. 9, col. 5, paragraph 0133) mounted to the enclosure such that air in the air flow path moves through the first HEPA filter, a second ULPA filter mounted downstream of the first HEPA filter (6 in Fig. 9, col. 5, paragraphs 0133 and 0141), and a fan (7) to move the air passing through the first filter (5) and the second filter (6). Claims 1, 5, 10, 27-36, 38 and 39 differ from the disclosure of Suzuki et al in that the second filter being a water vapor filter or PTFE filter element. Tanaka et al (2004/0168417) discloses an air filter unit such as an HEPA filter and ULPA filter wherein the filter medium can employ a PTFE porous film capable used as a ULPA filter (see col. 3, paragraph 0050 through col. 4, paragraph 0054). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide a PTFE porous film as taught by Tanaka et al in place of the ULPA filter medium in the filtration apparatus of Suzuki et al since it is well known in the art

that the hydrophobic nature of PTFE allowing removal water vapor in the air stream passing through.

Claims 4 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al (2004/0187451 A1), in view of Tanaka et al (2004/0168417), and further in view of either Greisz (5,730,770) or Van Winkle, Sr. (5,942,017).

Claims 4 and 37 call for the particulate filter being cleanable or washable. Greisz discloses a filter capable of capturing particles (30) is washable and disposable (see col. 1, line 66 through col. 2, line 4). Van Winkle, Sr. discloses filter (42) which remove particulates and contaminants in the air preferably made of a washable reusable material (see col. 5, lines 33-37). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide a washable or cleanable filter medium as taught by either Greisz or Van Winkle, Sr. in the filter apparatus of Suzuki et al and Tanaka et al since it is economical to produce a washable or cleanable filter medium so that the filter element can be reused as many times as possible to save cost.

Claims 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al (2004/0187451 A1), in view of Tanaka et al (2004/0168417), and further in view of Chung et al (6,660,070 B2).

Claims 18-26 call for control means with sensor for indicating whether the filter needs to be cleaned or replaced. Chung et al disclose an air quality sensor to monitor the air quality condition of the filter wherein a microprocessor is programmed to control the speed of the fan automatically according to the air quality control (see Abstract). It

would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide control means for air quality control as taught by Chung et al in the air purifier of Suzuki et al and Tanaka et al since the control means would effectively indicate and notify the user when the dirty filter needs to be changed out for life.

### ***Response to Amendment***

Applicant's arguments filed on June 30, 2005 have been fully considered but they are not persuasive.

Applicant argues that none of the cited references discloses a filtration apparatus comprising two filter elements in series, one is an HEPA filter and one is a PTFE filter, as newly amended. The Examiner now drops the prior art references and newly introduces Suzuki et al as the primary reference in combination with Tanaka et al reference under the 103 rejection to show a filtration system comprising an enclosure with an air flow path formed through the enclosure, a first HEPA filter (5 in Fig. 9, col. 5, paragraph 0133) mounted to the enclosure such that air in the air flow path moves through the first HEPA filter, a second ULPA filter mounted downstream of the first HEPA filter (6 in Fig. 9, col. 5, paragraphs 0133 and 0141), and a fan (7) to move the air passing through the first filter (5) and the second filter (6). Claims 1, 5, 10, 27-36, 38 and 39 differ from the disclosure of Suzuki et al in that the second filter being a water vapor filter or PTFE filter element. Tanaka et al (2004/0168417) discloses an air filter unit such as an HEPA filter and ULPA filter wherein the filter medium can employ a PTFE porous film capable used as a ULPA filter (see col. 3, paragraph 0050 through

Art Unit: 1724

col. 4, paragraph 0054), as newly claimed. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide a PTFE porous film as taught by Tanaka et al in place of the ULPA filter medium in the filtration apparatus of Suzuki et al since it is well known in the art that the hydrophobic nature of PTFE allowing removal water vapor in the air stream passing through.

The Examiner reintroduces Van Winkle, Sr. and newly introduces Griesz as the secondary references in combination with the primary references Suzuki et al and Tanaka et al under 103 rejection of claim 4 and 37 to show for the particulate filter being cleanable or washable. Greisz discloses a filter capable of capturing particles (30) is washable and disposable (see col. 1, line 66 through col. 2, line 4). Van Winkle, Sr. discloses filter (42) which remove particulates and contaminants in the air preferably made of a washable reusable material (see col. 5, lines 33-37), as claimed. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide a washable or cleanable filter medium as taught by either Greisz or Van Winkle, Sr. in the filter apparatus of Suzuki et al and Tanaka et al since it is economical to produce a washable or cleanable filter medium so that the filter element can be reused as many times as possible to save cost.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh-Chau T. Pham whose telephone number is (571) 272-1163. The examiner can normally be reached on Mon/Tues/Thur/Fri 7:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Minh-Chau Pham**  
**Patent Examiner**  
**Art Unit: 1724**  
**July 25, 2005**